

Unit 7

Day 2

General and Geometry Word Problems

Interest = Principal · rate · time

$$I = P \cdot R \cdot T$$

P = principal

R = rate

T = time

- 1) Anne Kelly received \$52,000 profit from the sale of some land. She invested part of that profit at 7.5% interest and the rest at 5.5% interest. She earned a total of \$3280 interest during the 1st year. How much did she invest at each rate?

let x = amt inv at 7.5%

$52,000 - x$ = amt inv. @ 5.5%

$(\$)^{21,000}$
 $(\$)^{31,000}$

amt earned @ 7.5 (\$) + amt earned @ 5.5 (\$) = Tot earned (\$)

$$.075(x) + .055(52000 - x) = 3280$$

$$75x + 55(52000 - x) = 3,280,000$$

$$x = 21,000$$

2) Gabby has \$6.30 in change. She has twice as many quarters as dimes and four fewer nickels than dimes. She has no pennies. How many of each type of coin does she have?

$$\text{let } d = \# \text{ dimes} = 10$$

$$2d = \# \text{ quarters} = 20$$

$$d - 4 = \# \text{ nickels} = 6$$

$$\begin{array}{r} \$1.00 \\ \$5.00 \\ \hline .30 \\ \hline 6.30 \end{array}$$

$$\begin{array}{l} \text{Val} \\ \text{dimes} \end{array} + \begin{array}{l} \text{Val} \\ \text{nickels} \end{array} + \begin{array}{l} \text{Val} \\ \text{quarters} \end{array} = \begin{array}{l} \text{Value} \\ \text{coins} \end{array}$$

$$.1d + .05(d-4) + .25(2d) = 6.30$$

$$10d + 5(d-4) + 25(2d) = 630$$

$$d = 10$$

3) Matt had gross wages of \$318. He is paid "time-and-a-half" for hours worked in excess of 40 hours and "double time" for hours worked on Sunday. He worked a total of 47 hours of which five were on Sunday. What is his regular hourly wage?

let $h = \text{hourly wage } (\$)$

$$\begin{array}{l} \text{reg} \quad \text{OT} \quad \text{Sunday} \quad \text{gross} \\ \text{earn} \quad + \quad \text{earn} \quad + \quad \text{earn} \quad = \quad \text{earn} \\ 40h \quad + \quad \overset{\text{hours}}{2(1.5)h} \quad + \quad 5(2)h \quad = \quad \$318 \end{array}$$

$$53h = 318$$

$$h = 6$$

4) Katie's room is a square. Her parents' room is a rectangle. One wall of of her parents' room is twice as long as a wall in Katie's room and the other wall is seven feet longer than one of Katie's walls. The perimeter of the parents room is 68 ft. What are the dimensions of Katie's room and her parent's room.?

Homework:

Unit 7 Day 2

General/Geometry Word Problem Worksheet